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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,972	09/11/2003	Matthew S. Shafer	X-1325 US	5052

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XILINX, INC
ATTN: LEGAL DEPARTMENT
2100 LOGIC DR
SAN JOSE, CA 95124

EXAMINER

GILMAN, ALEXANDER

ART UNIT PAPER NUMBER

2833

DATE MAILED: 04/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/659,972	Applicant(s) SHAHER, MATTHEW S.	
	Examiner Alexander D Gilman	Art Unit 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-17 is/are rejected.
- 7) ☐ Claim(s) 10-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/11/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2 both in line 10 recite "a second direction".

Claim 3 in line 10 recites "another direction".

It is unclear how the second or another direction is directed regarding "the first direction" or "the direction". It can be interpreted that first direction and the second direction forms 30 degrees angle.

It was assumed that the related directions form 90 degrees angle.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, are rejected under 35 U.S.C. 102(b) as being anticipated by the Admitted prior art.

With regard to claims 1-4, the admitted prior art (Fig. 3 of the specification) discloses a connector for connecting a circuit board to backplane, comprising:

a first (320) and second (322) transmit connection positions in a direction;

first (324) and second (326) receive connection positions; and a ground shield positioned in the direction

between the first and second transmit connection positions (The specification, p. 4, paragraph 11) and

the first and second receive connection positions,

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wherein the first (320) and the second (322) connection positions do not have an interposing ground shield in another direction.

With regard to claims 5,6, the admitted prior art (the specification, p. 2, paragraph 7) discloses differential pairs arrangement of contacts.

With regard to claim 9, the admitted prior art (Fig. 3 of the specification) discloses a connector to a serial backplane comprising:

a first plurality of receive connection elements (324, 326) on the connector for at least two serializer/deserializer modules, wherein two receive connection elements of the first plurality do not have a first interposing ground plane;

a second plurality of transmit connection elements (330, 332) for the at least two serializer/deserializer modules, wherein

the second plurality of transmit connection element is separated from the first plurality of the receive connection elements by a second interposing ground plane (the dotted line in fig 3 and the specification, p. 4, paragraph 11).

With regard to claim 17, the admitted prior art (Fig. 3 of the specification) discloses connector for connecting a plurality of serializer/deserializer modules to a serial backplane, comprising:

means (the structures for connecting derdes 126 to connector 214 for locating a plurality of transmit/receive pairs from the plurality of serializer/deserializer modules,

wherein each transmit/receive pair has means (structures for connecting to 230, 231) for connecting a transmit part of the transmit/receive pair to the backplane and means for connecting a receive part of the transmit/receive pair to the backplane; and

means for configuring a ground shield between means for connecting each transmit part of the plurality of transmit/receive pairs (TXP, TXN) to the backplane and means for connecting each receive part of the plurality of transmit/receive pairs (RXP, RXN) to the backplane (each of the structures for communicating TX and RX are separated by ground shield (Specification, p. 4, paragraph 11, since the ground shield disposed in both mutually perpendicular directions).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Ortega et al.

The prior art discloses all of the limitations except for single ended connection positions.

Ortega et al (US 6,527,587) discloses a variety of arrangements of the connection positions (col. 5, lines 8-15).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the prior art connector with single ended connection positions, as taught by Ortega et al, to use it for the connector applications with signal rate less than 1 GHz.

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Rothermel et al.

With regard to claim 13, the admitted prior art disclose (Fig. 3) a method for connecting a plurality of serializer/deserializer modules to a backplane, comprising:

selecting a plurality of transmit/receive pairs (for example columns 310 and 312) from the plurality of serializer/deserializer modules, wherein

each transmit/receive pair has an associated transmit connection structure and an associated receive connection structure in a connector; and

configuring a ground structure (240) between the associated transmit connection structures and the associated receive connection structures.

The admitted prior art does not disclose that there is no interposing ground structure between the associated receive connection structures (for instance between 326 and 344).

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Rothermel et al (US 6,384,341) disclose (Fig. 4) the ground configuration without interposing ground structure between the associated receive connection structures (the differential pairs of line F are separated from line E with the ground structure 102).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the prior art connector with the ground configuration without interposing ground structure between the associated receive connection structures, as taught by Rothermel et al, to control cross-talk without ground structures.

With regard to claim 14, the admitted prior art when modified by Rothermel et al, disclose (the admitted prior art) that the plurality of serializer/deserializer modules are part of a programmable logic device (the specification, p. 1, paragraph 4).

.With regard to claims 15, 16, the admitted prior art when modified by Rothermel et al, disclose (the admitted prior art) MGT and FPGA and PCB (the specification, p. 1, paragraph 4)

Allowable Subject Matter

Claims 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

No prior art has been found to anticipate or render obvious the presently claimed subject matter. Specifically, none of the prior art of record discloses the combination of the limitations presented including the arrangement of the signal contacts of two adjacent serializer-deserializer modules with the specified disposition of ground planes.

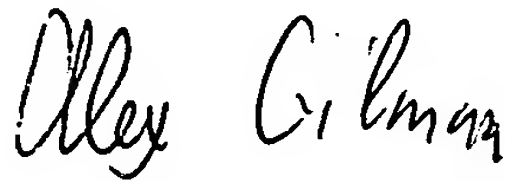
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander D Gilman whose telephone number is 571 272-2004. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on 571 272-2800 ext. 33. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

04/02/2004



ALEXANDER GILMAN
PRIMARY EXAMINER